

Paper 063-2009

## Exploring the Undocumented PROC SQL `_METHOD` Option

Kirk Paul Lafler, Software Intelligence Corporation, Spring Valley, California

### ABSTRACT

The SQL Procedure contains many powerful and elegant language features for SQL users to take advantage of. This paper explores the `_METHOD` option as an applications development and tuning tool. Attendees will learn how to use this undocumented and powerful option to better understand and control how a query processes.

### INTRODUCTION

PROC SQL supports a powerful “undocumented” option called `_METHOD`. Although undocumented features like the `_METHOD` option should be used with caution, SAS users may find this option to provide far greater value than risk. In fact, the `_METHOD` option is worth exploring because of the benefits related to gaining a better understanding of the processes during specific PROC SQL operations, including complex table joins and subqueries.

### APPLICATION OF THE `_METHOD` OPTION

The PROC SQL `_METHOD` option can be used as an effective way to analyze a query process as well as for debugging purposes. Information from using the `_METHOD` option is displayed on the Log using a variety of codes. The codes and their corresponding descriptions associated with the `_METHOD` option appear in the table below.

Code	Description
<b>SQXCRTA</b>	Create table as Select.
<b>SQXSLCT</b>	Select statement or clause.
<b>SQXJSL</b>	Step loop join (Cartesian).
<b>SQXJM</b>	Merge join operation.
<b>SQXJNDX</b>	Index join operation.
<b>SQXJHSH</b>	Hash join operation.
<b>SQXSORT</b>	Sort operation.
<b>SQXSRC</b>	Source rows from table.
<b>SQXFIL</b>	Rows filtration.
<b>SQXSUMG</b>	Summary stats (aggregates) with GROUP BY clause.
<b>SQXSUMN</b>	Summary stats with no GROUP BY clause.

In the following example a `_METHOD` option is specified to show the processing hierarchy in a two-way equi-join. As illustrated in the SAS Log, the PROC SQL optimizer utilized a hash join algorithm in the performance of the join.

### SQL Code

```
PROC SQL _METHOD;
  SELECT MOVIES.TITLE, RATING, ACTOR_LEADING
  FROM MOVIES, ACTORS
  WHERE MOVIES.TITLE = ACTORS.TITLE;
QUIT;
```

## Log Results

**NOTE: SQL execution methods chosen are:**

```
sqxslct
  sqxjhsh
    sqxsrc( MOVIES )
    sqxsrc( ACTORS )
```

## CONCLUSION

The SQL Procedure's `_METHOD` option provides users with a powerful and effective tool for gaining greater insight into complex join, subquery, and other programmatic operations.

## REFERENCES

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## ACKNOWLEDGMENTS

The author would like to thank Andrew Kuligowski and Diana Suhr, Coders' Corner Section Chairs, as well as Lori Griffin, SGF 2009 Conference Chair for a great conference!

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## AUTHOR BIO

Kirk Paul Lafler is consultant and founder of Software Intelligence Corporation and has been using SAS since 1979. Kirk provides IT consulting services and training to SAS users around the world. As a SAS Certified Professional, Kirk has written four books including *PROC SQL: Beyond the Basics Using SAS*, and more than three hundred peer-reviewed articles. He has also been an Invited speaker at more than three hundred SAS International, regional, local, and special-interest user group conferences and meetings throughout North America. His popular SAS Tips column, "Kirk's Korner of Quick and Simple Tips", appears regularly in several SAS User Group newsletters and Web sites, and his fun-filled SASword Puzzles is featured in SAScommunity.org.

Comments and suggestions can be sent to:

Kirk Paul Lafler  
Software Intelligence Corporation  
World Headquarters  
P.O. Box 1390  
Spring Valley, California 91979-1390  
E-mail: KirkLafler@cs.com

